

CLAIMS

1. A method for producing concrete elements, particularly semi-finished concrete products, with the steps that
  - a first layer of concrete mass is filled into a formwork and begins to set,
  - a reinforcing mesh is placed onto the semi-set first layer, wherein the reinforcing mesh preferably consists of conventional welded wire mesh;
  - a second layer of concrete mass is filled into the formwork on top of the first layer and the reinforcing mesh and begins to set,
  - modules (200, 300, 400, 500) with a plurality of adjacently arranged displacers, preferably plastic balls (240) or plastic shells (440), are pressed into the semi-set second layer, wherein the plurality of adjacently arranged displacers (240, 440) is respectively arranged in a lattice (230, 330, 430, 340) of rods,
  - the concrete mass is allowed to set and the thusly produced semi-finished product is removed from the formwork,  
wherein the lattice is open toward one side, preferably downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately 90° to 135°, preferably 95° to 120°, and wherein the fixing of the displacers (240, 340, 440, 540) into the lattice (230, 330, 430, 340) are produced.
2. A method for producing concrete elements, particularly semi-finished concrete products, with the steps that

- reinforcing elements, preferably lattice-like reinforcing elements, are placed into a formwork,
  - a layer of concrete mass is filled into the formwork and begins to set,
  - modules (200, 300, 400, 500) with a plurality of adjacently arranged displacers, preferably plastic balls (240) or plastic shells (440), are pressed into the semi-set second layer, wherein the plurality of adjacently arranged displacers (240, 340, 440, 540) is respectively arranged in a lattice (230, 330, 430, 340) of rods,
  - the concrete masses are allowed to set and the thusly produced semi-finished product is removed from the formwork, wherein the lattice is open toward one side, preferably downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately  $90^{\circ}$  to  $135^{\circ}$ , preferably  $95^{\circ}$  to  $120^{\circ}$ , and wherein the fixing of the displacers (240, 340, 440, 540) into the lattice (230, 330, 430, 340) are produced.
3. The method according to Claim 1 or 2, characterized in that the modules (200, 300, 400) are produced from welded wire mesh sections that are cut to size, namely by respectively bending a lattice (230, 330, 430, 340).
4. The method according to Claim 1 or 2, characterized in that the modules are produced from downwardly open lattice constructions that respectively feature an essentially triangular construction on the sides.

5. The method according to Claim 4, characterized in that the lateral rod constructions on one side are offset relative to the other side by approximately half the width of a triangle.
6. The method according to one of Claims 1-5, characterized in that the elements (4) consist of plastic parts.
7. The method according to one of Claims 1-6, characterized in that the elements (404) consist of shells.
8. The method according to one of Claims 1-7, characterized in that the elements (404) have a flat upper side and/or lower side.
9. The method according to one of Claims 1-8, characterized in that the elements (404) are downwardly open.
10. The method according to one of the preceding claims, characterized in that part of the displacers (240) upwardly protrudes from the lattice (230).
11. The method according to one of the preceding claims, characterized in that several modules (200, 300, 400, 500) are pressed into the semi-set concrete mass parallel to one another.
12. The method according to Claim 11, characterized in that the elements are interconnected in order to be fixed.
13. The method according to Claim 11 or 12, characterized in that the elements are arranged between upright reinforcing elements of the concrete.

14. The method according to one of the preceding claims, characterized in that a space remaining between the displacers (240) and the lower reinforcing meshes is filled with concrete mass.
15. A semi-finished concrete product produced by means of a method according to one of Claims 1-4.
16. A method for producing concrete elements, particularly concrete slabs, wherein a semi-finished concrete product produced in accordance with one of Claims 1-15 is additionally processed, namely with the steps that at least one additional concrete layer is applied onto the semi-finished product, wherein the top concrete layer then forms the upper side of the finished concrete element, preferably a finished concrete plate.
17. A module (200, 300, 400, 500) for producing concrete elements, particularly semi-finished concrete products, or concrete slabs, comprising a plurality of adjacently arranged displacers, preferably plastic balls (240) or plastic shells (440), for being pressed into a semi-set concrete layer, wherein the plurality of adjacently arranged displacers (240, 340, 440, 540) is respectively arranged in a lattice (230, 330, 430, 540) of rods, characterized in that the lattice (230, 330, 430, 540) is open toward one side, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately  $90^{\circ}$  to  $135^{\circ}$ , preferably  $95^{\circ}$  to  $120^{\circ}$ .

18. The module for producing concrete elements according to Claim 17, characterized in that at least part of the displacers (240) protrudes from the lattice (230).
19. The module for producing concrete elements according to Claim 17 or 18, characterized in that the modules (200, 300, 400, 500) are produced from welded wire mesh sections that are cut to size, preferably wire mesh arrangements with definite dimensions, by respectively bending a lattice and caging the displacers (240, 340, 440) in the thusly bent lattice.
20. The module for producing concrete elements according to one of Claims 17-19, characterized in that the displacers consist of several partial elements that are joined with the aid of a locking mechanism.
21. The module according to Claim 17 or 20, characterized in that the modules (500) are produced from downwardly open lattice constructions that respectively feature an essentially triangular rod construction on the sides.
22. The module according to Claim 21, characterized in that the lateral rod constructions on one side are offset relative to the other side by approximately half the width of a triangle.
23. The module according to one of Claims 17-22, characterized in that the elements (404) consist of shells.
24. The module according to one of Claims 17-23, characterized in that the elements (404) have a flat or flattened upper side and/or lower side.

25. The module according to one of Claims 17-24, characterized in that the elements (404) are downwardly open.